A NEW GENUS OF THE STAPHYLINID TRIBE DORYLOMIMINI FROM AFRICA AND ITS POSSIBLE SIGNIFICANCE TO ANT PHYLOGENY[1]

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Genera of myrmecophiles which show relationships to each other that are found in far flung parts of the world are particularly interesting in that they may give clues to the relationships of their ant hosts. Thus in the staphylinid genus *Aenictonia* Wasmann, we have many species in Africa and one species from Thailand, (Seevers 1965, Kistner 1968). This would show that the ant hosts, *Aenictus* sp. and *Dorylus* (s. lat.) found in the Indo-Malayan and the Ethiopian regions had related myrmecophiles. *Aenictophila* Seevers, also known from Thailand from *Aenictus* colonies is related to *Ocyplanus* Fauvel known from Africa from colonies of *Dorylus* (*Anomma*) sp. While the Indo-Malayan hosts are not known, the pygostenine genera *Xenidus* Rey, *Delibius* Fauvel, and *Deliodes* Casey are clearly related to African genera found with *Dorylus* (s. l.) sp. The above are the only clear cut examples of staphylinid genera which show affinities between doryline ants of Africa and those of the Orient.

In spite of the fact that Seevers (1965) showed Dorylomimini present in both the Old and the New World, none of these were so closely related that they unequivocably showed common ancestry. In fact the single dorylomimine genus known from the Orient is not closely related to Dorylomimini from either Africa or the New World. The recognition of *Rhopalogaster* then is important as the first genus

[1]This study as financed in part by the National Science Foundation (Grant NSF-GB-28661X). Accepted for publication: October 9, 1971 [3.0143].

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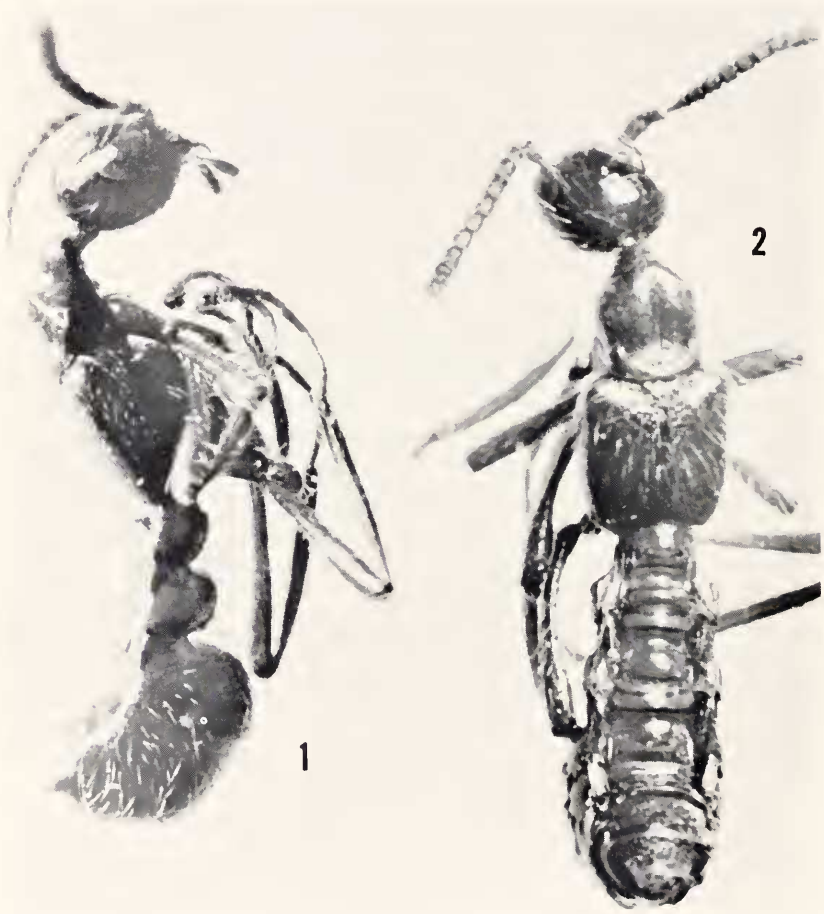

FIG. 1-2: *Rhopalogaster leleupi*: 1, Lateral view with emphasis on the petiolate abdomen; 2, Dorsal view.

of Old World staphylinid myrmecophiles which is clearly related to a New World genus. Its relationship to *Philacamatus* found with *Neivamyrmex* may help to show that *Aenictus* and *Neivamyrmex* evolved from common ancestors, a controversial question in ant taxonomy (Brown 1954, p. 28, 30).

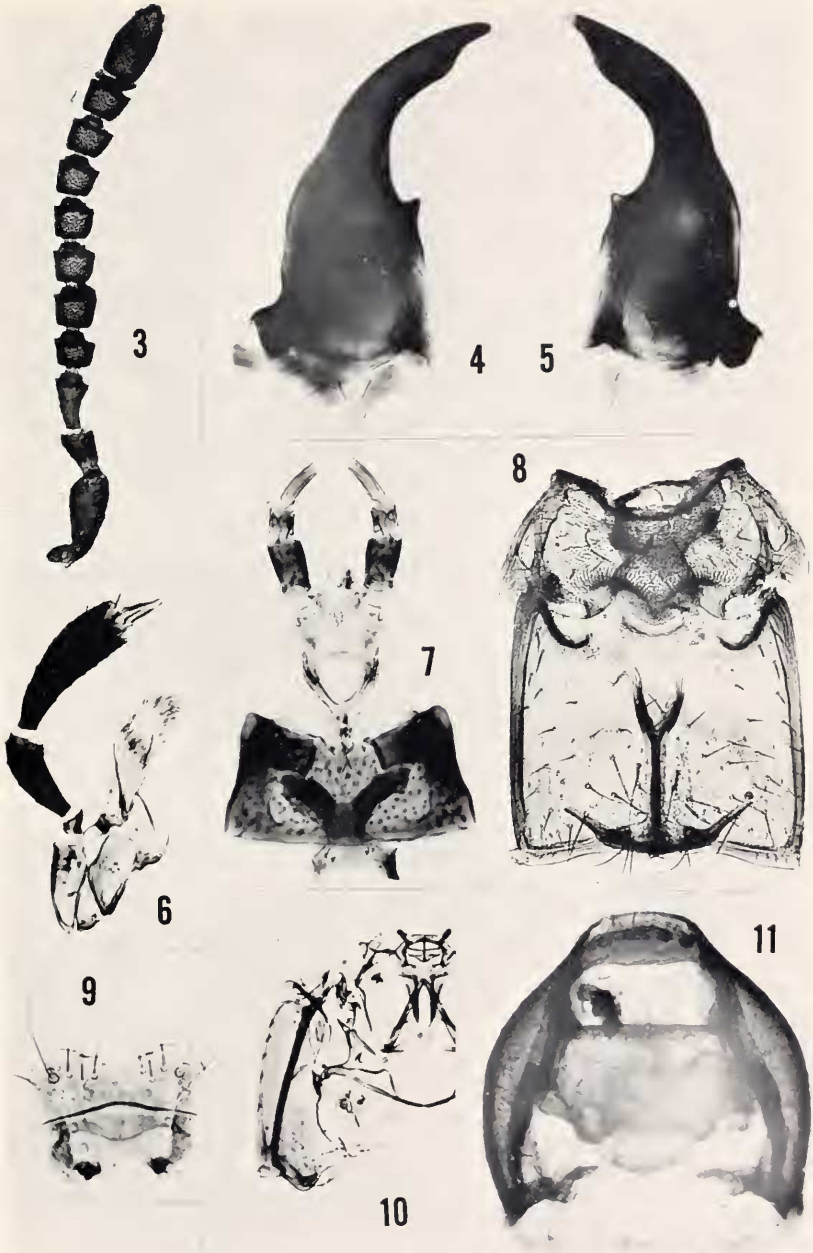

FIG. 3-11: *Rhopalogaster leleupi*: 3, Antenna; 4, Right mandible; 5, Left mandible; 6, Maxilla; 7, Labium and submentum; 8, Meso- and metasternum; 9, Labrum; 10, Meso- and metanotum; 11, Pronotum and prosternum.

Genus **Rhopalogaster**, NEW GENUS

Related to *Philacamatus* Bruch through the tarsal formula; the elongation of the legs and the form of the coxae, particularly the metacoxae; the strongly sclerotized prosternum with the straplike processes closing the coxal cavities behind; and the widely separated mesocoxae with the loose articulation of the mesolegs. Distinguished therefrom by its more generalized abdomen, which though petiolate, does not have segment III and IV as strongly constricted as *Philacamatus.* [For comparative figures, see Bruch (1933)]. This would make this genus belong to the *Philacamatus* group as defined by Seevers (1965) and the first Old World genus belonging to that species group.

Overall appearance as in Fig. 1 and 2. Head capsule longer than wide, shaped as in Fig. 1. Gula entire and ending a little bit anterior to the posterior edge of the head capsule, which is prolonged into a distinct neck. Mentum distinctly separate from the submentum which is fused to the gula. Antennae shaped as in Fig. 3, 11-segmented, with the petioles distinct; inserted between the anterior arms of the tentorium and the eyes. Labrum shaped as in Fig. 9. Mandibles nearly symmetrical, shaped as in Fig. 4 and 5; prostheca membranous. Maxillae shaped as in Fig. 6, palpi 4-segmented; acetabulae distinctly margined. Labium and submentum shaped as in Fig. 7, palpi 3-segmented.

Pronotum shaped as in Fig. 2 and 11, with the anterior edge of the pronotum prolonged into a structure which attaches to the neck of the head capsule and forms a sort of double neck. Pronotum widening out posteriorly to form an inverted bell shaped appearance. Hypomera of pronotum reflexed ventrally to connect to the well defined and large prosternum, shaped as in Fig. 11. Procoxal cavities closed behind by a small process from the pronotum to which the peritreme is closely adherent. Meso- and metasternum shaped as in Fig. 8, the mesocoxal cavities widely separated by broad acarinate mesothoracic process. Mesocoxal cavities not margined. Metathoracic coxal cavities also widely separated. Meso- and metanotum shaped as in Fig. 10. Elytra shaped as in Fig. 12. Wings present and with the usual staphylinid venation. Pro-, meso-, and metalegs shaped as in Fig. 20, 19, and 18 respectively; tarsal formula 4-5-5.

Abdomen strongly petiolate, shaped as in Fig. 1, 2, and 13, with segments II, III, and IV as well as the anterior part of V strongly involved in the constriction. Note in addition the raised part of the tergite on segment III which gives a petiolate appearance of the dorsal aspect of tergite III. Abdominal segment I fused to the metanotum. Abdominal segment II represented by the tergite alone. Abdominal segments III, IV, V, and VI represented by a tergite, sternite, and 2 pairs of paratergites each. The inner paratergites are approximately twice as wide as the outer paratergites and have an extra band of sclerotization on them. Segment VII with tergite, sternite, and 1 pair of paratergites. Segment VIII rep-

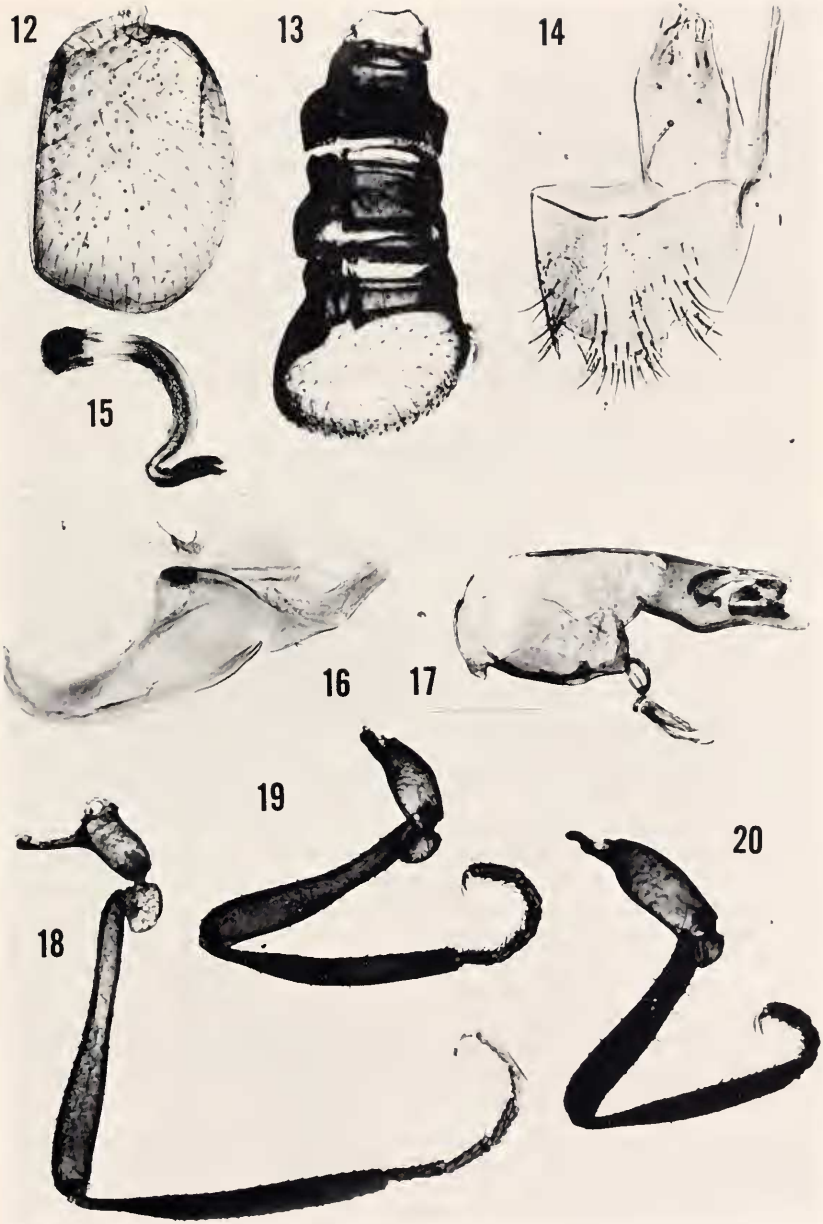

Fig. 12-20: *Rhopalogaster leleupi*: 12, Elytron; 13, Abdominal segments II-V; 14, Abdominal segment IX; 15, Spermatheca; 16, Lateral lobe of male genitalia; 17, Median lobe of male genitalia; 18, Metathoracic leg; 19, Mesothoracic leg; 20, Prothoracic leg.

resented by tergite and sternite alone. Segment IX shaped as in Fig. 14, trilobed, with the anterior apodemes strongly developed in the male and a ninth sternite also present in the male. Median lobe at male genitalia bulbous, sclerotized, shaped as in Fig. 17, presumed variable by species. Lateral lobe of male genitalia shaped as in Fig. 16. Female spermatheca sclerotized, shape presumed variable by species.

Type-species.—Rhopalogaster leleupi a description of which follows.

Rhopalogaster leleupi, NEW SPECIES

(Fig. 1—20)

Since the genus is presently represented by 1 species, the characters given below as being specific are based upon experience with other genera.

Color uniformly reddish brown throughout. The dorsal surface of head, pronotum, and elytra smooth and shiny. Head with numerous elongate but light setae scattered evenly over the surface, but the setae are longer at the posterior than at the middle or anterior parts. Pronotum and elytra also with an even vestiture of long thin yellow setae. Pronotum with a median longitudinal cleft proceeding from about 1/3 the way from the anterior border to about 1/3 the length from the posterior border. This cleft empties into a large excavated area which extends to the sides of the pronotum and ends in two distinct punctures. This sculpture is easily visible in Fig. 2. Elytra without distinction, shaped as in Fig. 12 which also shows the chaetotaxy. Abdominal sternite with an even covering of fine yellow setae. Tergites with an even covering of fine yellow setae which are much shorter than those on the sternites. These setae do not seem to have any definite pattern to them but are just scattered over the tergites in an approximately even pattern. Tergites III, IV, and V are deeply excavated near the anterior border particularly tergite III; this proceeds to an evenly rounded hump near the posterior borders. This hump is particularly well developed on tergite III. Median and lateral lobes of the male genitalia shaped as in Fig. 16 and 17. Female spermatheca shaped as in Fig. 15.

Measurements.—Pronotum length, 0.68-0.72; elytra length, 0.60-0.61; widest width of head between eyes (near the posterior border of eye), 0.53-0.55. Number measured, 7.

Holotype.—#14230, Congo Republic, Katanga, Kundelungu, 1750 m, herbaceous savanna, 20 March 1950, Coll. N. Leleup. In the collection of the Musée Royal de l' Afrique Centrale, Tervuren.

Paratypes.—6, same data as holotype, (MRAC, DK).

Notes.—The host ants were determined to be *Aenictus weissi* Santschi by Kistner, but are presently being studied by W. Gottwald of Utica College.

Acknowledgments.—I thank M. P. Basilewsky, Chef de la Section d' Entomologie, Musée Royal de l' Afrique Centrale, Tervuren for permitting me to study the specimens which formed the basis of this paper. I also thank Mr. Henry S. Dybas, Division of Insects, Field Museum of Natural History, Chicago for permitting me to study the excellent staphylinid collections under his supervision.

The following Shinner assistants contributed to this study; William Blackburn, Daniela Davison, Joyce Goodwin, and Angela Vendsel, all of Chico State College.

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2.0143 A new genus of the staphylinid tribe Dorylomimini from Africa and its possible significance to ant phylogeny.

Abstract.—A new genus *Rhopalogaster* and species, *leleupi* was described from the Katanga province of the Congo Republic from a nest of *Aenictus weissi* Santschi. This genus is most closely related to the genus *Philacamatus* which is known from the New World tropics with *Neivamyrmex* sp. This is the first African myrmecophilous staphylinid genus which shows undeniable affinities to a New World myrmecophilous genus. This supports the idea of a common ancestry of *Aenictus* and *Neivamyrmex.*—David H. Kistner, Department of Biology, Chico State College, Chico, CA 95926.

Descriptors: Coleoptera; Staphylinidae; Dorylomimini; myrmecophiles; *Rhopalogaster leleupi*, new genus, new species, Africa; Hymenoptera; Formicidae; *Aenictus*; *Neivamyrmex;* ant phylogeny.